BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
The 4.9 GHz Band Transferred from Federal Government Use	)	WT Docket No. 00-32
	)	

To: The Commission

REPLY COMMENTS OF APCO

The Association of Public-Safety Communications Officials-International, Inc. ("APCO") hereby submits the following Reply Comments in response to several Comments filed in the above-captioned proceeding.[1]

I. THE 4.9 GHZ BAND SHOULD ONLY BE AVAILABLE TO TRADITIONAL PUBLIC SAFETY ENTITIES.

Most parties in this proceeding support limiting eligibility to traditional public safety entities.[2] However, a couple of commenters argue that the Commission should use the broader description of "public safety radio services" contained in Section 309(j)(2) of

[1] In the Matter of The 4.9 GHz Band Transferred from Federal Government Use, *Second Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 00-32, FCC 02-47 (rel. Feb. 27, 2002) ("FNPRM").

[2] *See, e.g.*, Comments of the Public Safety Wireless Network Program, pp. 4-7; Comments of the Office of the Chief Technology Officer, Government of the District of Columbia, p. 4; Comments of New York State Office for Technology, p. 6; Joint Comments of International Association of Chiefs of Police, Major Cities Chiefs Association, National Sheriffs' Association, and Major County Sheriffs' Association, p. 2; Comments of the City of New York, p. 2; Comments of the City of Phoenix, Arizona, pp. 1-2; Comments of the National Public Safety Telecommunications Council, p. 2; Comments of the International Association of Fire Chiefs, Inc. and International Municipal Signal Association, p. 2.

the Act (which describes entities to be exempted from spectrum auctions) to define eligibility in the 4.9 GHz band.[3] These commenters argue that allowing more users in the band is consistent with the Communications Act, will allow critical infrastructure entities to maintain reliable and secure communications, will promote compatibility, interoperability and spectrum efficiency. One commenter goes even farther, stating that the FCC should extend eligibility on a conditional basis to *commercial* services and unlicensed devices.[4] However, Congressional intent and good public policy require that the Commission adopt a much narrower definition of "public safety" for purposes of eligibility in the 4.9 GHz band.

There is no dispute that the definition of "public safety radio services" in Section 309(j)(2), regarding spectrum auctions, includes non-governmental critical infrastructure entities under certain conditions. However, that provision has a distinct legislative purpose, unrelated to spectrum eligibility. Section 309(j)(2) merely delineates the extent of the Commission's auction authority. As the Commission stated in the *Report and Order* adopting rules and policies to implement both Sections 309(j) and 337, as amended by the Balanced Budget Act of 1997, "this exemption from the Commission's auction authority is of particular importance to determining the auctionability of wireless spectrum."[5] Furthermore, the Commission stated that "the public safety radio services

[3] *See* Comments of the United Telecom Council, pp. 2-3; Joint Comments of Cinergy Corporation and Consumers Energy Company, pp. 16-23.

[4] *See* Comments of Atheros Communications, Inc., p. 5.

[5] Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rule Making*, 15 FCC Rcd 22709, 22740 (2000) ("Report and Order").

exemption does not preclude the Commission from allocating additional spectrum only for traditional public safety services."[6]

Cinergy and Consumers Energy Company argue that "because the narrow definition in 337(f) applies only to the 24 MHz of spectrum allocated in the upper 700 MHz band, the FCC should not use that section to determine eligibility for the [4.9 GHz] band."[7] However, while the public safety definition in Section 337(f) may have been drafted to apply to the 700 MHz band, it reflects a very clear congressional intent regarding the types of entities who should be eligible to hold licenses for scarce "public safety" radio spectrum. Indeed, the simultaneous adoption of Section 309(j)(2) and Section 337(f) within the same legislation (the Balanced Budget Act of 1997) clearly indicates that Congress did not want its broad definition of service categories that are *exempt from auction* to define who may *use public safety spectrum*.

UTC argues that critical infrastructure entities such as utilities, pipeline, and transit systems should be eligible to operate in the 4.9 GHz band because they must maintain reliable, secure communications and any failure in their ability to communicate by radio could have severe consequences on the public welfare.[8] APCO does not dispute that certain non-governmental entities perform very important functions, or that they need to maintain reliable and secure communications. In fact, APCO recognized in its Comments that there are times when interoperability between public safety responders

[6] *Report and Order*, 15 FCC Rcd at 22741.

[7] Joint Comments of Cinergy Corporation and Consumers Energy Company, p. 19.

[8] Comments of the United Telecom Council, p. 2.

and critical infrastructure entities such as utilities is necessary.[9] In those specific circumstances, utilities participating in joint emergency operations with eligible public safety entities should be afforded the ability to share resources for the ad-hoc establishment of disaster restoration facilities.

However, licenses for "public safety" spectrum subject to FCC jurisdiction should only be held by state and local government public safety entities. Utilities, pipelines and railroads undoubtedly play an important role in the nation's critical infrastructure. Yet, they are still commercial entities for whom maintaining the safety of life, health and property is at most a secondary goal and responsibility. In contrast, the citizenry has charged state and local governments with the inherent, core responsibility of protecting their lives, health, and property above all else. That priority must be reflected in the Commission's provision of scarce radio spectrum for public safety communications.

As the Commission is aware, traditional public safety entities are in tremendous need for adequate interference-free spectrum. The Final Report of the Public Safety Wireless Advisory Committee ("PSWAC") described one of the most critical challenges that public safety agencies face in their use of radio communications:

> [t]he radio frequencies allocated for Public Safety use have become highly congested in many, especially urban areas. Usable spectrum for mobile operations is limited, and Public Safety agencies are not able to meet existing requirements, much less to plan for future, more advanced communications needs. Not only does the shortage of spectrum jeopardize the lives and health of Public Safety officials, it threatens their ability to fully discharge their duty to protect the lives and property of all Americans.[10]

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[9] *See* APCO Comments, p. 5.

[10] Public Safety Wireless Advisory Committee to the Federal Communications Commission and the National Telecommunications and Information Administration, Final Report, p. 2, September 11, 1996 ("PSWAC Final Report").

Because of this shortage of spectrum, PSWAC included within its recommendations that the 4635-4685 MHz band be allocated to public safety services,[11] which PSWAC defined as "those services rendered by or through Federal, State, or Local government entities in support of Public Safety duties."[12] The 4.9 GHz band allocation thus goes a long way in satisfying a key portion of the PSWAC recommendations. However, should the Commission adopt an overly broad definition of "public safety," it will diminish the amount of spectrum available for state and local government public safety agencies. Such a result would be contrary to both the PSWAC recommendations and to the strong desire of many state and local government public safety entities that advocated this allocation in the first place.

UTC also argues that if critical infrastructure entities were eligible to operate in the 4.9 GHz band, it would alleviate the congestion and interference problem those entities face in the Industrial Business and Industrial and Land Transportation PLMR pools.[13] However, the possible congestion and/or interference in those PLMR pools is simply beyond the scope of *this* proceeding. In this proceeding, allowing utilities, railroads, pipelines and similar entities to operate in the 4.9 band would lead to congestion and place traditional public safety users in competition for scarce spectrum with entities that do not have public safety as their principal function.[14]

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[11] PSWAC Final Report, pp. 59-60.

[12] *Id*., p. 45.

[13] Comments of the United Telecom Council, pp. 2-3.

[14] *See* The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010; Establishment of Rules and Requirements for Priority Access Service, WT Docket No. 96-

II. THE COMMISSION SHOULD NOT ALLOW SHARING WITH COMMERCIAL USERS.

Atheros Communications proposes in its Comments that commercial users and unlicensed devices be eligible to use the band on a conditional basis.[15] According to Atheros, such use should be permitted under conditions that ensure the ability of public safety users to automatically and seamlessly preempt commercial and unlicensed signals without delay.[16] Atheros argues that the Enhanced Distributed Coordination Function ("EDCF") proposed for the IEEE 802.11 standard can be utilized to permit prioritized, preemptive use of the radio channel by public safety entities, and that equipment with this capability already exists for use in the 5 GHz U-NII bands.[17] This proposal would essentially allow commercial users to operate in the 4.9 band on a secondary basis.[18]

If adopted, Atheros' proposal could present serious problems to public safety users. First, a commercial provider may not be able to detect that there is public safety use in a particular area. For example, a one-way camera link could be feeding a public safety remote receiver using directional links on a path. In that instance, a commercial unit near the public safety receiver would not necessarily detect the in-bound video signal, thus causing interference to the public safety receiver. In addition, if a commercial unit were to malfunction, there might not be an effective way to determine

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86, *First Report and Order and Third Notice of Proposed Rulemaking*, 14 FCC Rcd 152 ¶ 52 (1998).

[15] Comments of Atheros Communications, Inc., p. 5.

[16] *Id*.

[17] *Id*.

[18] In the FNPRM, the Commission also explored the possibility of allowing commercial licensees to utilize the band in order to serve public safety entities. FNPRM at ¶ 36. Notably, none of the parties indicated support for this approach.

where the offending unit is located or who it belongs to, except perhaps if Regional Planning Committees ("RPCs") were required to license and coordinate secondary-use commercial units. However, even with that approach, it is unlikely that RPCs will have the time and resources to effectively perform such a daunting task.

A likely public safety application in this band is the use of fixed hotspots.[19] With such hotspot applications, users entering the coverage area would have to be "prioritized" by the system under the Atheros' proposal. As different products will utilize the EDCF technology in different ways, there will be many more scenarios that public safety entities will have to prepare for and address. If this technology denies access to a public safety user one time, while it may be resolved in a reasonable period of time, in many first responder incidents more than a few seconds might be too long and introduce serious safety issues.

Atheros' proposal also raises serious concerns regarding the security and integrity of public safety systems. If an individual can hack his commercial off-the-shelf device, he may also set his own "priority" to public safety levels and possibly destroy public safety wireless local access network ("WLAN") implementation. By putting together both public safety and uncontrolled secondary devices in the same band, the Commission would be creating an environment that would not only entice, but actually make it easier for "crackers" or cyber-terrorists to breach public safety systems, or spoof or jam such systems by disabling the EDCF/ Carrier Sense technology. The public safety community requires a level of integrity and security above COTS levels.

[19] *See* APCO Comments, p. 6.

Atheros states that equipment with the capability to permit prioritized, preemptive use of the radio channel by public safety entities already exists for use in the 5 GHz U-NII bands and is being recommended for the 5.9 GHz Dedicated Short Range Communications ("DSRC") band.[20] In that case, commercial users should use the 5GHz and 5.9 GHz DSRC bands, rather than congesting the 4.9 band and creating interference and compromising the security of public safety systems.

Finally, Atheros indicates that the EDCF function that would allow certain classes of traffic to preempt other classes works with the 802.11 technologies.[21] If the Commission were to adopt Atheros' proposal, it appears that public safety entities would be limited to IEEE 802.11 technology. Although APCO indicated in its Comments that IEEE 802.11a was the principal technology it currently envisioned being used in this band for high-speed data networks, it was important that the band plan and rules remain flexible as other agencies may want an ubiquitous wireless data network within their coverage boundaries using technologies other than 802.11a. Therefore, Atheros' proposal, if adopted, would force the Commission to set flexibility aside and actually favor a particular technology over others that might be available now or in the future.

[20] Comments of Atheros Communications, Inc., p. 5.

[21] *See id.* at Appendix I, p. 1 ("This mechanism [EDCF] utilizes the Carrier Sense Multiple Access with Collision Avoidance technology used by all IEEE 802.11 products").

CONCLUSION

For the reasons set forth above and it our initial Comments, the Commission should adopt the narrower and more traditional definition of "public safety services" contained in Section 337(f) of the Act to determine eligibility in the 4.9 GHz band, and should not permit commercial or unlicensed use of the band.

Respectfully submitted,

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